

BEFORE THE ARIZONA CORPORATION COMMISSION

JEFF HATCH-MILLER
Chairman
WILLIAM A. MUNDELL
Commissioner
MARC SPITZER
Commissioner
MIKE GLEASON
Commissioner
KRISTIN K. MAYES
Commissioner

AVIS READ; individually, and on Behalf of All)	DOCKET NO. E-01345A-04-0657
Others Similarly Situated,)	
Complainants,)	
v.)	
)	
ARIZONA PUBLIC SERVICE COMPANY,)	
Respondent.)	
_____)	

IN THE MATTER OF THE APPLICATION OF)	DOCKET NO. E-01345A-03-0775
ARIZONA PUBLIC SERVICE COMPANY FOR)	
A DECLARATORY ORDER REGARDING BILL)	
ESTIMATION PROCEDURES)	
_____)	

DIRECT
TESTIMONY
OF
MATTHEW ROWELL
CHIEF ECONOMIST
UTILITIES DIVISION
ARIZONA CORPORATION COMMISSION
JANUARY 24, 2005

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EXEXUTIVE SUMMARY

This testimony provides a discussion of Staff's chief concerns regarding Avis Read's complaint against APS ("the Read Complaint") filed with the Commission September 9, 2004. This testimony will also address APS' compliance with A.A.C. R14-2-210, which is one of the Commission's regulations; it will also address APS' compliance with two of its Commission-approved tariffs, ECT-1 and ECT-1R. This testimony will also respond to certain portions of APS witness David J. Rumolo's testimony filed on November 23, 2004; specifically, this testimony will address Mr. Rumolo's request for clarification on ten "situations" and Mr. Rumolo's assertion that APS' meter estimation practices were provided to the Commission. Additionally, this testimony will explain Staff's position on applicable fines and penalties regarding APS' actions.

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I INTRODUCTION

Q. Please state your name and business address for the record.

A. My name is Matthew Rowell. My business address is Arizona Corporation Commission,
1200 W. Washington St., Phoenix, Arizona 85007.

Q. What is your position at the commission?

A. I am the Chief of the Telecommunications and Energy section of the Commission's
Utilities Division.

Q. Please describe your education and professional background.

A. I received a BS degree in economics from Florida State University in 1992. I spent the
following four years doing graduate work in economics at Arizona State University where
I received a MS degree and successfully completed all course work and exams necessary
for a Ph.D. My specialized fields of study were Industrial Organization and Statistics.
Prior to my Commission employment I was employed as a lecturer in economics at
Arizona State University, as a statistical analyst for Hughes Technical Services, and as a
consulting research analyst at the Arizona Department of Transportation. I was hired by
the Commission in October of 1996 as an Economist II. I was promoted to the position of
Senior Rate Analyst in November of 1997 and to Chief Economist in July of 2001. In my
current position I am responsible for supervising nine professionals who work on a variety
of telecommunications and energy matters.

Q. What is the purpose of your testimony?

1 A. My testimony provides a discussion of Staff's chief concerns regarding Avis Read's
2 complaint against APS ("the Read Complaint") filed with the Commission September 9,
3 2004. My testimony will also address APS' compliance with A.A.C. R14-2-210, which is
4 one of the Commission's regulations; I will also address APS' compliance with two of its
5 Commission-approved tariffs, ECT-1 and ECT-1R. My testimony will also respond to
6 certain portions of APS witness David J. Rumolo's testimony filed on November 23,
7 2004; specifically, my testimony will address Mr. Rumolo's request for clarification on
8 ten "situations" and Mr. Rumolo's assertion that APS' meter estimation practices were
9 provided to the Commission. Additionally, my testimony will explain Staff's position on
10 applicable fines and penalties regarding APS' actions.

11
12 **Q. What aspects of the Read Complaint caused the most concern for Staff?**

13 A. While much of the discussion in this case has dealt with meter read estimation procedures
14 and APS' compliance with rules and tariffs dealing with meter read estimation, Staff's
15 chief concern is not how Ms. Read's meter reads were estimated. Staff's chief concern is
16 the fact that Ms. Read received *no* bill (estimated or otherwise) for five months
17 (September 1999 thru January 2000.) Additionally, when Ms. Read's bills were
18 eventually rendered on February 24, 2000 they were unreasonably confusing. The bill that
19 Ms. Read finally did receive was for over \$6,000, an amount that, even for a well off
20 individual, could create a cash flow problem. In spite of all this (APS' failure to send bills
21 for five months, the confusing nature of the bills when they did arrive, and the financial
22 burden of the bill), APS was not willing to work with Ms. Read on an extended payment
23 plan for anything beyond three months (APS' standard for extended payment plans.)
24

25 **Q. Ms. Read's February 24, 2000 bill was for a total of \$6,336.46. What time period did**
26 **that bill cover?**

1 A. That bill included charges for September 1999 thru January of 2000 totaling \$1,709.42. It
2 also included \$4,627.04 from a prior balance.

3
4 **Q. Why does Staff believe that when Ms. Read's bills were finally rendered they were**
5 **unreasonably confusing?**

6 A. Ms. Read received multiple bills at one time. She received bills for each month as well as
7 a total cumulative bill. APS provided these bills to Staff in response to a data request.
8 There was no explanation of the situation included with these bills. Both Staff and Staff's
9 consultants, who have experience with the electric utility industry, were confused by the
10 bills. It took considerable effort on Staff's part to determine what had occurred based on
11 the content of the bills. Thus, it is reasonable to conclude that Ms. Read would have
12 found the bills confusing.

13
14 Additionally, Ms. Read received two sets of bills for the time periods December 17, 1999
15 thru February 17, 2000. Bills for this time period were reissued based on a meter read that
16 Ms. Read had called in. These reissued bills contained a notice that did not explain why
17 the bills were reissued or that they superceded the original bills. (See the December 28,
18 2004 Staff Report page VI-4.)

19
20 **Q. What are Staff's general observations about the above-described events that led to**
21 **the Read complaint?**

22 A. From a customer service perspective, the treatment Ms. Read received from APS was
23 inadequate. At several points during the time period discussed above, APS could have
24 taken steps to lessen the burden on Ms. Read. Specifically, when APS realized it was not
25 fulfilling its obligation to send bills on a monthly basis, it could have at least sent clear
26 notice to the affected customers that there was a problem that was preventing bills from

1 going out. When the bills finally were sent, they could have been accompanied by clear
2 notice explaining the situation. When Ms. Read contacted APS concerning her bill in
3 excess of \$6,000, APS could have clearly explained the situation to Ms. Read and offered
4 her a payment plan other than the standard three month plan. In short, in spite of APS'
5 failure to fulfill its obligation to send timely bills to Ms. Read, APS seems to have taken
6 no action to lessen the impact to Ms. Read.

7
8 **Q. Is it reasonable to expect that APS could have taken the steps listed in your previous**
9 **answer (or other steps aimed at mitigating the impact on its customers associated**
10 **with its billing problems)?**

11 **A.** Yes. At the time in question APS knew it was having trouble with sending timely bills. It
12 is reasonable to expect that this inability to properly bill would result in customer
13 confusion *and* eventual financial burdens on customers. APS could have taken pro-active
14 measures to alleviate the impact on customers. For instance, APS could have instituted a
15 policy that extended the standard three-month period for installment payments. Staff
16 understands that APS did inform its customer service representatives that there was a
17 billing problem that would result in increased calls from customers. However, it does not
18 seem that APS actually changed any of its policies in a way that would allow the customer
19 service representatives to address customers' problems.

20
21 In response to Staff's 15th set of data requests, APS provided a newspaper article dated
22 December 12, 1998 that indicates that APS had sent letters to its customers apologizing
23 for the billing problems associated with implementing a new billing system. Staff
24 believes that such letters are certainly a good idea and that sending them does qualify as a
25 proactive step to alleviate customer confusion. However, these letters were sent a full
26 fourteen months prior to Ms. Read's February 24, 2000 bill. Thus, had Ms. Read received

1 one of these letters, it is not reasonable to believe that she would have had it on hand or
2 remembered its content in February of 2000.

3
4 **II APS' COMPLIANCE WITH A.A.C. R14-2-210 AND ITS FILED TARIFFS**

5
6 **Q. What does A.A.C. R14-2-210 address?**

7 A. This rule, which I will subsequently refer to as "Rule 210," addresses billing and
8 estimation. Before discussing this subject, I want to acknowledge that APS and Ms. Read
9 have disputed the validity of the rule in the Superior Court case that preceded Ms. Read's
10 complaint to the Commission. I am not an attorney, and I cannot address those legal
11 issues. If the Commission were to conclude that Rule 210 is in effect, the following
12 information may be helpful to the Commission when evaluating Ms. Read's complaint.

13
14 **Q. Why does Ms. Read believe that APS has violated Rule 210?**

15 A. She contends that Rule 210 requires APS to obtain Commission approval of its bill
16 estimation procedures. She further contends that APS does not have Commission-
17 approved bill estimation procedures and that APS has therefore violated the rule.

18
19 **Q. At pages 17 thru 20 of his testimony APS witness Rumolo argues "the amendments**
20 **to Rule 210 that required submittal of bill estimation procedures were never**
21 **intended to apply to incumbent utilities." What is Staff's position on the**
22 **applicability of Rule 210 to APS?**

23 A. This is a difficult issue. Several factors imply that Rule 210 in its entirety would apply to
24 APS, yet other factors imply that APS' belief that it did not apply is not wholly
25 unreasonable.

1
2 **Q. What are the factors that imply that Rule 210 did apply to APS?**

3 A. The principal factor is the plain language of the rule. R14-2-210(A)(5)(a) is the section of
4 the rule at issue and it reads as follows:

5
6 “A utility or billing entity may not render a bill based on estimated usage if:

7 a. The estimation procedures employed by the utility or billing entity have not
8 been approved by the Commission.”
9

10 “Utility” is defined in R14-2-201(45) as:

11
12 “The public service corporation providing electric service to the public in
13 compliance with state law...”
14

15 Clearly, APS is a utility and thus R14-2-210(A)(5)(a) was applicable to it.
16

17 Another factor that implies that R14-2-210(A)(5)(a) applied to APS is the fact that on
18 August 23, 2001 the Process Standardization Working Group (“PSWG”) filed a joint
19 application for a waiver from two subsections of this same rule, R14-2-210(A)(5)(b) and
20 R14-2-210(A)(5)(c). APS was a member of the PSWG at the time. The members of the
21 PSWG, including APS, must have believed that R14-2-210(A)(5)(b) and R14-2-
22 210(A)(5)(c) applied to them or they would not have asked for a waiver. R14-2-
23 210(A)(5)(b) and R14-2-210(A)(5)(c) rely on the same definition of “utility” as R14-2-
24 210(A)(5)(a).
25

26 **Q. What factors imply that APS’ belief that R14-2-210(A)(5)(a) did not apply to it is not**
27 **wholly unreasonable?**

28 A. All of the incumbent utilities had meter estimation procedures in place at the time that
29 R14-2-210(A)(5)(a) was established. Yet the rule did not specify how existing meter

1 estimation procedures were to be handled. It is not unreasonable to suggest that had the
2 Commission intended 210(A)(5)(a) to apply to incumbent utilities a provision would have
3 been added to the rules to account for the interregnum between when the rules were
4 enacted and when the incumbent utilities estimation procedures were approved.

5
6 **Q. What is Staff's conclusion regarding the applicability of R14-2-210(A)(5)(a)?**

7 A. Staff believes that the plain language of R14-2-210(A)(5)(a) indicates that the rule was
8 intended to apply to APS. And while APS may have believed that R14-2-210(A)(5)(a)
9 did not apply to it, this does not justify inaction on its part. If, APS believed that the rule
10 did not apply to it (in spite of the plain language of the rule), APS could have and should
11 have sought clarification of the rule from the Commission.

12
13 **Q. Does APS have Commission-approved bill estimation procedures?**

14 A. APS has Commission-approved bill estimation procedures for Rate Schedules ECT-1 and
15 ECT-1R. Apparently, APS has not implemented the methods approved in these tariffs,
16 but has instead used a different method. Staff has not been able to identify any
17 Commission order that explicitly approves APS' existing meter read estimation
18 procedures.

19
20 **Q. Page 5 line 23 of APS' application for a Declaratory Order, indicates that APS had**
21 **submitted its estimation procedures to Staff on October 15, 2002. Please comment on**
22 **this filing.**

23 A. The filing on October 15, 2002 (Attachment 1 to this testimony) was made in compliance
24 with Commission Decision No. 64180. This filing contained a brief description of the
25 estimation procedures utilized when a first or final bill is estimated. Although this filing
26 was consistent with Commission Decision No. 64180, it was not comprehensive and only

1 included procedures for the estimation of kWh. Any procedures related to first or final
2 bill demand estimations were not included in this filing.

3
4 **Q. As previously discussed, in Commission Decision No. 64180, APS and other members**
5 **of the PSWG received a joint wavier from R14-2-210(A)(5)(b) and (c). Please explain**
6 **the provisions of that decision.**

7 A. This decision granted a waiver from the provisions in the rule which would prohibit a
8 utility or billing entity from rendering an estimated bill if the bill would be the customer's
9 first or final bill or the customer is a direct access customer requiring load data. A
10 provision in the decision also required the utilities to file reports indicating the number of
11 estimations, the reasons why a read could not be obtained, and the method used to
12 estimate the read specifically for the two situations for which the waiver applied.

13
14 **Q. When did APS file a more comprehensive list of estimation procedures?**

15 A. On October 10, 2003, APS made a filing in compliance with Decision No. 64180
16 (Attachment 2 to this testimony.) This second filing was a further modification to APS'
17 estimation procedures and included additional information not provided in APS' first
18 filing. It included procedures used for estimations other than first or final bill along with
19 demand estimation methodologies. This filing was made only twelve days before APS
20 filed its application for a Declaratory Order with the Commission, which requested among
21 other things approval of its estimation procedures. More specifically, Staff was not made
22 aware of any changes to APS demand estimation methodologies until twelve days before
23 the filing of APS' application for a Declaratory Order. In addition, the application for a
24 Declaratory Order contained additional information that was not included in the
25 company's October 10, 2003 filing.
26

1 **Q. Does Staff believe that including its estimation procedures in a compliance filing**
2 **constitutes an application for Commission or Staff approval of APS' estimation**
3 **procedures?**

4 A. No. It would be unusual for Staff to evaluate these types of filings in the same manner as
5 an application for Commission approval. Staff's review of compliance filings focuses on
6 whether those filings comply with the provisions of the relevant Commission order. If a
7 company provides additional information in a compliance filing and provides no notice of
8 its intentions regarding that additional information, it is not reasonable to expect Staff or
9 the Commission to understand the company's intention. In other words, "slipping in"
10 information in a compliance filing is not appropriate and does not constitute proper notice.
11 Had APS intended to provide the Commission or Staff with its estimation procedures for
12 review and approval it should have provided the Commission or Staff with appropriate
13 notice. Typically, a utility would make a filing through Docket Control for initial
14 approval of or a change to existing utility processes or procedures for which it required
15 Commission approval. Often this type of filing is filed with the Commission as an
16 application for approval of a tariff or an amendment to an existing tariff.

17
18 **Q. Does the Commission's decision in the Ciccone complaint (Decision No. 59919)**
19 **constitute Commission approval of APS' bill estimation procedures?**

20 A. No. Decision No. 59919 contains no findings regarding bill estimation procedures, and
21 APS' bill estimation procedures were not the subject of the Ciccone complaint. APS' bill
22 estimation procedures are mentioned only in passing in Decision No. 59919.

23
24 **Q. If the Commission were to determine that Rule 210(A)(5)(a) is in effect, has APS**
25 **violated that rule?**

1 A. Yes. The terms of that rule require utilities to obtain Commission approval of bill
2 estimation procedures before issuing estimated bills. Staff has not been able to identify,
3 and APS has not been able to provide, any Commission order that explicitly approves
4 APS' current meter read estimation procedures.

5
6 **Q. Does APS' current bill estimation method comply with R14-2-210A(2)?**

7 A. Yes. R14-2-210A(2) provides that:

8
9 "If the utility or Meter Reading Service Provider is unable to obtain an actual
10 reading, the utility or billing entity may estimate the consumption for the billing
11 period giving consideration to the following factors where applicable:

- 12 a. The customer's usage during the same month of the
13 previous year.
14 b. The amount of usage during the preceding month."
15

16 Staff believes that this rule is addressing the estimation of kWh. The Arizona
17 Administrative Code does not contain a definition of "consumption." However, Staff
18 believes that the term "consumption" generally applies to kWh *not* kW when it is used in
19 the electric utility industry. Staff understands that APS' bill estimation method does
20 consider the customer's kWh consumption (i.e., "energy") from the same month in the
21 prior year and from the preceding month. However, for customers with demand meters
22 APS does not consider the customer's kW (i.e., "demand") from the same month in the
23 prior year or from the preceding month. Another issue concerning the applicability of
24 R14-2-210A(2) is whether the term "usage" means kWh, kW, or both. The Arizona
25 Administrative Code does not contain a definition of "usage." However, Staff believes
26 that the term "usage" generally applies to kWh *not* kW when it is used in the electric
27 utility industry. Also, the Commission's decision in the Ciccone complaint (Decision No.
28 59919) defines the "usage portion" of a customer's consumption as kWh and the "demand

1 portion” as kW.¹ Staff is not aware of any other authoritative definition of the term
2 “usage” as it pertains to the electric utility industry. Because of its general use in the
3 industry and because of the language of the Ciccone Decision, Staff believes that the term
4 “usage” as used in R14-2-210A(2) refers to kWh. Because APS’ bill estimation method
5 considers the customer’s kWh consumption from the same month in the prior year and
6 from the preceding month, it complies with R14-2-210A(2).

7
8 **Q. Does APS’ estimation method comply with its Tariffs?**

9 A. No. The EC-1 and ECT-1R tariffs² provide that if an estimate of kW is necessary it will
10 be set equal to the last month’s kW read. APS has clearly not followed the demand
11 estimation procedures laid out in tariffs EC-1 and ECT-1R. In his testimony, APS witness
12 Rumolo essentially admits that APS was not (and is not) complying with its EC-1 and
13 ECT-1R tariffs.³ In fact, Mr. Rumolo testifies that APS has never complied with these
14 tariffs since they became effective in 1983. Mr. Rumolo implies that the estimation
15 procedure required by the EC-1 and ECT-1R tariffs is inferior to the estimation
16 procedures APS actually has been using. Staff witness Perry L. Wheaton addresses the
17 merits of various meter read estimation techniques in his testimony. However, regardless
18 of the merits of the tariffed procedure, APS has an obligation to comply with the tariff *or*
19 to file a revised tariff.

20
21 **III. APPLICABLE REMEDIES**

22
23 **Q. The Read Complaint appears to recommend that *all* revenue collected by APS from**
24 **estimated bills be returned to customers. Does Staff agree with this proposal?**

¹ See Decision No. 59919 page 1 line 28 thru page 2 line 2.

² Tariff EC-1 has been in effect since 1983. Tariff ECT-1R has been in effect since 1989 and was a replacement for tariff ECT-1 which had been in effect since 1981. The language dealing with meter read estimations is identical in tariffs ECT-1R and ECT-1.

³ Page 24 lines 16 and 17.

1 A. No. Section B. 3. of the Prayer for Relief of the Read Complaint recommends that "...all
2 funds received by reason of estimated billings sent out without following the procedures
3 for sending such bills..." should be returned to "other members of the class." Regardless
4 of whether APS was estimating bills in accordance with Commission rules or tariffs,
5 customers are not entitled to free electricity. In the Staff Report filed on December 28,
6 2004 and in the testimony of Staff witness Perry L. Wheaton, Staff recommends that the
7 amount of any over billings resulting from demand estimation be returned to the
8 applicable customers (with interest.) Customers are entitled to an accurate bill and any
9 over billed amounts should be returned. However, APS' actions do not justify allowing
10 customers to pay nothing for electricity they did in fact use.

11
12 **Q. What specific violations of Commission rules, statutes or tariffs did Staff evaluate**
13 **when determining whether to recommend a monetary fine in connection with the**
14 **Read Complaint?**

15 A. Staff considered APS failure to comply with R14-2-210(A)(5)(a), its failure to send bills
16 on a monthly basis, and its failure to comply with its EC-1 and ECT-1R tariffs.

17
18 **Q. Is Staff recommending a fine regarding rule 210?**

19 A. No. Staff recognizes that there could have been some confusion regarding the
20 applicability of R14-2-210(A)(5)(a) to APS. While the appropriate response to such
21 confusion would have been to request clarification of the rule rather than simply assuming
22 that it was not applicable, Staff believes there is enough uncertainty regarding the
23 applicability of the rule to dissuade us from recommending a fine. Staff notes that no
24 Arizona electric utility has filed their estimation procedures with the Commission. This
25 indicates that APS was not alone in its interpretation of R14-2-210(A)(5)(a).
26

1 **Q. Regarding the tariff violations, is Staff recommending a monetary fine?**

2 A. Yes. APS was clearly in violation of its EC-1 and ECT-1R tariffs. APS appears to have
3 intentionally disregarded this tariff language for a period of years. Staff believes that a
4 monetary fine for these violations is appropriate.

5
6 **Q. Regarding the failure to send bills, is Staff recommending a monetary fine?**

7 A. Yes. APS clearly failed to send bills to Ms. Read for five months. R14-2-210(A)(1)
8 requires utilities to send bills on an (essentially) monthly basis. Staff believes that a
9 monetary fine for these violations is appropriate.

10
11 **Q. With respect to the tariff violations, are there any mitigating or aggravating**
12 **circumstances that affect Staff's recommendation concerning a fine?**

13 A. Staff believes there are mitigating circumstances. On pages 22 thru 28 of his testimony,
14 APS witness Rumolo argues that the billing estimation methodology required by APS'
15 EC-1 and ECT-1R tariffs is inferior to the methodology that APS actually used.⁴ While
16 Staff does not agree with that conclusion, Staff does acknowledge that the methodology
17 APS actually used is not an unreasonable method for estimating meter reads. Staff has
18 found no evidence that APS' actual methodology resulted in consistent over-billings. In
19 fact, we have found the opposite: APS' method is more likely to result in under-billings
20 than over-billings.⁵

21
22 However, regardless of the merits of a particular method, APS has an obligation to comply
23 with its tariffs. If APS discovers that the provisions of a tariff are not optimal, the

⁴ Staff's analysis of these methodologies is discussed in the testimony of Perry L. Wheaton.

⁵ See the testimony of Perry L. Wheaton

1 appropriate course of action is to file revisions of the tariff with the Commission. Simply
2 acting as if the tariffs do not exist is inappropriate.

3
4 **Q. With respect to APS' failure to send Ms. Read bills, are there any mitigating or**
5 **aggravating circumstances that affect Staff's recommendation concerning a fine?**

6 A. There are both mitigating and aggravating factors. The mitigating factor is the fact that
7 APS was implementing a new CIS at the time the bills were being sent. Staff understands
8 that the implementation of a new CIS is a difficult undertaking and that it can result in
9 significant billing problems even if managed appropriately. Also, over \$4,000 of Ms.
10 Read's February 2000 bill was not associated with the five month period where Ms. Read
11 received no bills. Thus, the burden of the \$6,627.04 February bill is not entirely
12 attributable to the five months when no bills were received. However, these mitigating
13 factors are overshadowed by the aggravating factors of the poor customer service Ms.
14 Read received from APS and the length of time over which that the billings problems
15 persisted. As stated in the above introduction, Staff finds the customer service Ms. Read
16 received to be inadequate. Also, as discussed above APS was aware of its billing
17 problems in December of 1998, a full fourteen months prior to Ms. Read's February bill.

18
19 **Q. Why is Staff recommending a fine?**

20 A. Staff's chief concern in this case is compliance with the Commission's rules and tariffs.
21 Staff cannot ignore non-compliance with Commission tariffs. Staff believes it is
22 reasonable to expect that a utility will follow its own tariffs and file for revisions of those
23 tariffs when necessary.⁶

24

⁶ Staff notes that Utilities routinely file tariff revisions with the Commission, in a typical year the Commission receives upwards of 400 requests for tariff revisions.

1 Additionally, Staff feels that the failure to send bills is a serious issue and cannot be
2 ignored. APS' failure to send bills to Ms. Read was not an isolated event. It resulted from
3 problems regarding the implementation of a new billing system that lasted for at least
4 fourteen months (December of 1998 thru February of 2000.)

5
6 Although Staff has identified certain mitigating factors in the preceding paragraphs, we do
7 not believe that these factors are sufficient to mitigate against the imposition of a fine.
8 However, if the company comes forward with credible evidence which would mitigate
9 against the imposition of a fine, Staff stands ready to reconsider its recommendation.

10
11 Staff's recommendations (including those in this testimony and those in the testimony of
12 Perry L. Wheaton and the December 28, 2004 Staff Report) are chiefly concerned with
13 modifications to APS' policies and practices and verification of compliance through audit.
14 In addition to the fine discussed below, Staff recommends that for the next five years a
15 corporate officer of APS be required to submit verification to the Commission that APS is
16 in compliance with its tariffs dealing with billing practices and with Commission rules
17 dealing with billing practices.

18
19 **Q. What fine is Staff recommending?**

20 A. APS has been out of compliance with the meter estimation portion of its EC-1 and ECT-
21 1R tariffs over twenty years. Thus, even if the minimum per occurrence fine amount of
22 \$100 was assessed for each occurrence of non-compliance (i.e., each estimated meter read
23 applicable to those two tariffs over the past twenty-one years), the resulting fine would be
24 unreasonably large. Staff believes a more appropriate method for determining a fine
25 regarding non-compliance with EC-1 and ECT-1R would be to select a recent
26 representative year and assess a per occurrence penalty based on the relevant estimated

1 meter reads in that year. Staff believes that basing the fine on the instances of non-
2 compliance for the most recent year for which we have complete information is
3 appropriate. 2003 is the most recent year for which we have complete information. In
4 2003 there were 9,530 meter read estimations for customers on EC-1 and ECT-1R. Given
5 that APS' non-compliance with EC-1 and ECT-1R did not constitute an attempt to
6 consistently over-bill its customers, Staff recommends that the minimum fine amount of
7 \$100 per occurrence be assessed for each of these 9,530 occurrences. This results in a fine
8 of \$953,000.

9
10 With respect to APS' failure to send bills to Ms. Read for five months, Staff believes that
11 a fine of \$4,000 per occurrence is appropriate. APS could have attempted to mitigate the
12 impact on Ms. Read by providing clear notice to her explaining the situation or by offering
13 her an extended payment plan. Since this was not done, Staff is recommending a
14 maximum per occurrence fine of \$4,000; this is four-fifths of the maximum allowable per-
15 occurrence fine. Since Ms. Read did not receive five bills, this results in a fine of
16 \$20,000.

17
18 The two fine amounts listed above total \$973,000. However, Staff recognizes that there
19 are costs associated with complying with the recommendations in the testimony of Perry
20 L. Wheaton and the Staff Report filed on December 28, 2004. In recognition of those
21 costs Staff has adjusted its recommended fine amount down by \$400,000. The total
22 monetary fine that Staff recommends be assessed on APS is \$573,000.

23
24 **Q. Is the monetary fine discussed in the previous question the only action that Staff is**
25 **recommending?**

1 A. No. The monetary fine is in addition to the recommendations discussed in the testimony
2 of Perry L. Wheaton and the Staff Report filed on December 28, 2004. Staff also
3 recommends that APS provide subsequent verification of the costs associated with
4 complying with the recommendations discussed in the testimony of Perry L. Wheaton and
5 the Staff Report filed on December 28, 2004. Additionally, Staff recommends that for the
6 next five years a corporate officer of APS be required to submit verification to the
7 Commission that APS is in compliance with its tariffs dealing with billing practices and
8 with Commission rules dealing with billing practices.
9

10 **Q. Should Staff's recommended monetary fines or the costs of complying with Staff's**
11 **other recommendations be considered for recovery in any subsequent rate case?**

12 A. No.
13

14 **Q. Does this conclude your testimony?**

15 A. Yes.
16

APPENDIX: APS' REQUEST FOR CLARIFICATION ON TEN "SITUATIONS"

Q. What are the 10 situations raised in both the declaratory order and Mr. Rumolo's testimony that deal with circumstances that may or may not constitute bill estimation?

A. Mr. Rumolo describes the ten situations as follows:

Situation 1 – Characterization of the first bill after a billing period for which consumption was estimated.

Situation 2 – Characterization of a bill if rates change in the middle of a billing cycle.

Situation 3 – Characterization of a bill issued prior to obtaining a valid meter reading, which bill is later adjusted after a valid read is obtained.

Situation 4 – Total meter failure or malfunction resulting in no available reliable information.

Situation 5 – Meter failure or malfunction but some data is available.

Situation 6 – Meter reading is not available using electronic meter reading information but data is obtained from visual meter reading.

Situation 7 – Meter reading information is not available because the service is provided on an un-metered basis such as street lighting service.

Situation 8 – Unbundled service for direct access customers is provided on the basis of load profiles rather than using interval data metering.

Situation 9 – Meter tampering results in lack of metered consumption information.

Situation 10 – An electronic meter reading is obtained but the data cannot be transferred to a billing computer.

1 **Q. What is the significance of these ten situations?**

2 A. APS has asked for a determination as to whether each of these ten situations constitutes an
3 estimated bill. APS has asked for this determination in both its request for a declaratory
4 order and in Mr. Rumolo's testimony. Mr. Rumolo claims at Page 8 lines 5 thru 8 of his
5 testimony that Situation One has some special relevance to the Read Complaint. Staff
6 does not agree that APS' characterization of Situation One is especially relevant to the
7 Read Complaint. Whether the bill described in Situation One is considered to be
8 estimated or not would have had little bearing on Ms. Read's situation.

9

10 **Q. What are the implications of determining whether a bill is estimated or not?**

11 A. A.A.C. R14-2-210 (Rule 210) describes specific provisions related to estimated bills.
12 Should a bill be determined to be estimated, issuance of the bill would be subject to
13 specific provisions of Rule 210.

14

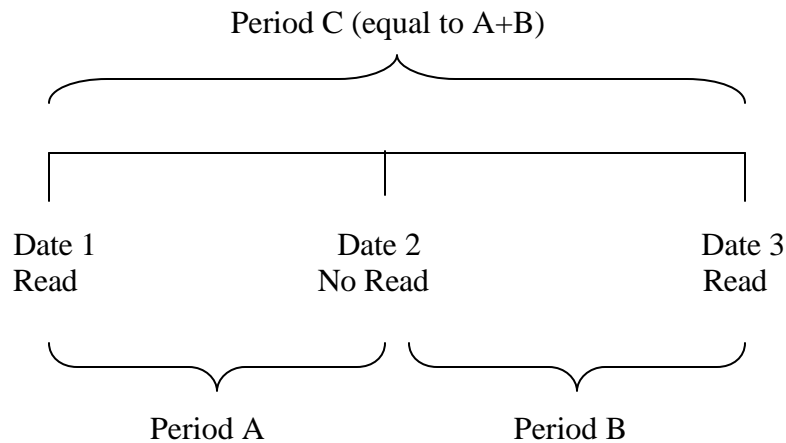
15 **Q. Does the Arizona Administrative Code include a definition of an estimated bill?**

16 A. No.

17

18 **Q. Please describe the 10 situations identified by APS and discuss Staff's evaluation of**
19 **these situations?**

20 A. *Situation 1 – Characterization of the first bill after a billing period for which consumption*
21 *was estimated.*



Referring to the graphic above, if a read is obtained at Date 1 and a read is not obtained at Date 2, an estimated bill will be issued for Period A. Later when a Read is obtained at Date 3, total kWh used between Dates 1 and 3 will be known. This total known usage between Dates 1 and 3 is represented by Period C above the timeline. At the time of Date 3, it will be necessary to issue a bill for Period B. As the total usage in Period C will be known at that time and an estimated bill will have been issued for Period A at that time, it will be appropriate to issue a bill for the mathematical difference between Period C and Period A. In fact, it will be necessary to calculate the bill for Period B as the difference between Period C and A because the meter reading at the beginning of Period B was unknown and consequently usage in the month in which Period B falls is unknown.

The question posed in Situation 1 is whether a bill issued based on the Date 3 read should be considered an estimated bill or not. APS suggests that such a bill is not an estimated bill. Staff agrees with this conclusion. Bills based on the Date 3 read reflect actual usage. They include actual usage from Period B and a 'true up' of estimated to actual for Period A. However, the number of billing days that the charge on the bill represents is unknown because an estimated bill was issued for Period A. Bills issued based on the Date 3 read

1 represent known usage over an unknown period of billing days. Because the usage
2 contained in Date 3 bills is not estimated, Staff concludes that the bills are not estimations.

3
4 It remains, however, that there is some uncertainty associated with these bills related to
5 the time period for which they apply. A.A.C. R14-2-210(B)(2) requires that each
6 residential bill contain among other things: the beginning and ending meter readings of
7 the billing period, the dates thereof, and the number of days in the billing period. These
8 requirements create an obligation for APS to inform customers of the nature of these bills.
9 Staff recommends that when issuing bills described in Situation 1, APS include notice on
10 the bills that explains that they are true up bills that reconcile previously estimated bills
11 with subsequent bills and may not reflect the usage for the month for which they are
12 issued. Staff recommends that APS be ordered to work with Staff to develop appropriate
13 language for such an explanation.

14
15 *Situation 2 – Characterization of a bill if rates change in the middle of a billing cycle.* In
16 this situation the portions of the total billing period's usage that are assigned to either the
17 previous rate or the new rate are determined by assuming equal consumption in each of
18 the billing days and assigning consumption to the old and new rates proportionally to the
19 number of days in the billing cycle that fell before or after implementation of the new rate.

20
21 APS suggests that should this methodology be used when rate changes occur, the bill
22 should not be considered an estimated bill. Staff agrees that bills issued using such a
23 methodology should not be considered estimations for purposes of Rule 210. These bills
24 are based on actual meter reads. Also, R14-2-210(A)(1) requires that meter readings shall
25 be scheduled for periods of not less than 25 days or more than 35 days without customer
26 authorization. Should APS endeavor to read each meter within a billing cycle in which a

1 rate change occurs in order to establish the proportion of monthly usage that occurs before
2 and after the rate change, it would be incumbent on APS to first secure customer
3 authorization for such interim reads. An additional barrier would be the need to read
4 every customer's meter on the day of the implementation of the rate change. As a process
5 involving additional interim reads is operationally infeasible, and the Commission has
6 never instructed a utility to do so to the best of Staff's knowledge, Staff suggests that bills
7 issued as described in Situation 2 not be considered estimations for purposes of Rule 210.

8
9 *Situation 3 – Characterization of a bill issued prior to obtaining a valid meter reading,*
10 *which bill is later adjusted after a valid read is obtained.* Bills may be issued in order to
11 meet requirements that bills be issued within a 25 to 35 day billing window as described
12 previously. These bills are issued when no read is available due to various conditions and
13 a bill must be sent to satisfy the prescribed billing window. APS suggests that such bills
14 are estimations and that a subsequent bill based on a known read is considered a corrected
15 bill rather than an estimated bill.

16
17 Staff agrees that the first bill described is an estimated bill, as it is not based on known
18 consumption. Staff agrees that the subsequent bill is a corrected bill or "true up" bill
19 rather than an estimated bill provided that it is based on actual consumption.

20
21 *Situation 4 – Total meter failure or malfunction resulting in no available reliable*
22 *information.* Situation 4 describes bills issued when a meter fails. APS suggests that
23 when meters fail it is necessary to issue an estimated bill. Staff agrees with APS that such
24 a situation requires estimation, as a true read cannot be taken.
25

1 *Situation 5 – Meter failure or malfunction but some data is available.* Situation 5
2 describes a meter malfunction in which the extent of meter reading error that results from
3 the malfunction can be known precisely. For example, if one leg of a three-phase meter
4 fails, one knows that usage is under-recorded by exactly one third. APS suggests that such
5 a bill is not an estimated bill. Staff agrees that such bills are not estimated, as APS can be
6 certain of the usage in these situations. Staff recommends that bills issued as described in
7 Situation 5 are not estimated bills.

8
9 *Situation 6 – Meter reading is not available using electronic meter reading information*
10 *but data is obtained from visual meter reading.* Situation 6 describes a bill issued based
11 on a visual read of a meter when an electronic probe of such a meter has failed. APS
12 suggests that such a bill is not estimated. Staff agrees that such a bill is not an estimate as
13 the read is determined visually.

14
15 *Situation 7 – Meter reading information is not available because the service is provided*
16 *on an un-metered basis such as street lighting service.* Situation 7 describes bills that are
17 issued based on tariffs that call for unmetered usage. Bills for private lighting or street
18 lighting, for instance, are set tariff rates that prescribe set monthly billing amounts that do
19 not depend on metered usage. APS suggests that such bills are not estimated bills. Staff
20 agrees that such bills are not estimated bills. Staff finds that bills issued under such an
21 arrangement are bills based on a tariffed monthly fee rather than estimated bills. While
22 the tariffs themselves are based on an estimation, or anticipation, of a given appliance's
23 future usage, the bills issued by APS in situation 7 reflect APS' implementation of a tariff
24 that prescribes a set charge. When these bills are issued, APS does not estimate the
25 appliance's consumption.
26

1 *Situation 8 – Unbundled service for direct access customers is provided on the basis of*
2 *load profiles rather than using interval data metering.* Situation 8 describes bills that
3 might be sent by APS to Electric Service Providers for billing of transmission and
4 settlement of generation costs associated with provision of electricity to direct access
5 customers. In this situation class load profiles have been used to allocate generation and
6 transmission costs to specific days as direct access customers under 20 kW are not
7 required to have interval meters capable of providing load profile information. APS
8 concludes that as the transaction between APS and the ESP is FERC regulated, bills issued
9 as described in Situation 8 are not estimated bills. Since such transactions are wholesale
10 transactions between utilities, Staff concludes that bills issued by APS to ESPs are not
11 estimations for purposes of Rule 210.

12
13 *Situation 9 – Meter tampering results in lack of metered consumption information.*
14 Situation 9 describes issuance of a bill when a meter has been tampered with. APS
15 suggests that a bill issued under such circumstances is an estimated bill. Staff agrees that
16 such a bill is estimated as the usage during the billing period is not known and estimation
17 of usage is required.

18
19 *Situation 10 – An electronic meter reading is obtained but the data cannot be transferred*
20 *to a billing computer.* Situation 10 describes an event where the APS billing computer
21 cannot properly download billing data in spite of an accurate electronic read having been
22 taken by a meter reader with a hand held computer. APS suggests that such a situation
23 requires issuance of an estimated bill. Staff agrees that should the APS billing computer
24 not be able to access usage data, it would be necessary to issue an estimated bill.
25

1 **Q. Please provide a brief summary of Staff's recommendations regarding these 10**
2 **situations.**

3 1. Staff recommends that when issuing bills described in Situation 1, APS identify
4 the bills as true up bills and provide an explanation on such bills that indicates the
5 nature of the bills. Staff recommends that APS be ordered to work with Staff to
6 develop such an explanation. Bills issued as described in Situation 1 are true up
7 bills rather than estimated bills.

8
9 2. Bills issued as described in Situation 2 should not be considered estimations for
10 purposes of Rule 210.

11
12 3. Bills issued as described in Situation 3 are in the first instance an estimated bill and
13 in the second instance a corrected bill rather than an estimated bill.

14
15 4. Bills issued as described in Situation 4 are estimated bills.

16
17 5. Bills issued as described in Situation 5 are not estimated bills.

18
19 6. Bills issued as described in Situation 6 are not estimated bills.

20
21 7. Bills issued as described in Situation 7 are not estimated bills.

22
23 8. Bills issued as described in Situation 8 are not estimated bills for purposes of
24 Rule 210.

25
26 9. Bills issued as described in Situation 9 are estimated bills.

1

2

10. Bills issued as described in Situation 10 are estimated bills.

3

4

Q. Does this conclude the Appendix to your testimony?

5

A. Yes.

6

7

8

9

10

11

ATTACHMENT 1



A subsidiary of Pinnacle West Capital Corporation

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Title Manager, Regulatory Compliance
Department Regulatory Compliance

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PO Box 53933
Phoenix, Arizona 85072-3933

October 15th, 2002

Mr. Ernest Johnson
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

RE: Semi-annual Compliance Filing Pursuant to Decision No. 64180
Docket No. E-00000A-00-0403

Dear Mr. Johnson:

Pursuant to the above referenced decision, attached is Arizona Public Service Company's semi-annual filing regarding estimated initial and final bills.

In preparing this report, APS determined many of the initial and final bills estimated by the company for the period January 1, 2002 – June 30, 2002 were caused by the very reasons Staff mentions in section 7, lines 21 – 24. Additionally, APS experiences estimated initial and final reads caused by the timing of new meters sets as well as servicemen read errors. These are identified on the attached report. As a result of analysis performed for the preparation of this report, APS has implemented some process changes. As you'll see, these changes have resulted in lowering our number of estimated reads. These reductions are reflected in the later months covered by this filing.

Also pursuant to Decision 64180, section 13, line 26-27, APS is including the methodology used to estimate meter reads. Unless this methodology is changed in the future, subsequent filings will only include the report indicating the numbers of customers receiving estimated initial or final bills and the reason why the read was estimated.

If you or your staff have any questions, please feel free to call me.

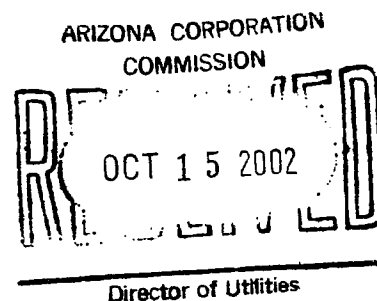
Sincerely,

Jana Van Ness
Manager
Regulatory Compliance

Attachments

JVN/vld

Cc: Patrick Williams
Manager, Compliance and Enforcement



ARIZONA PUBLIC SERVICE COMPANY
Semi-annual Compliance Filing Pursuant to Decision No. 64180
Docket No. E-00000A-00-0403
Estimated Initial and Final Reads for the Period
January 1, 2002 – June 30, 2002

Definition of Categories

Meter Issues – Meters where, at the time APS went to connect or disconnect the service, the serviceman was unable to obtain a read because of a condition on the meter. This includes, a blank display, or the meter already being removed, or a damaged meter.

Access – Meters which were inaccessible to APS personnel at the time of the disconnect or at the time of the first read following the connection of service to the customer.

New Install – New meter sets which were not in the APS meter reading system at the time the route was read.

Read Error – Meter reads obtained by the serviceman at the time of the connect or disconnect which are out of line with previous reads.

ARIZONA PUBLIC SERVICE COMPANY
Semi-annual Compliance Filing Pursuant to Decision No. 64180
Docket No. E-00000A-00-0403
Estimated Initial and Final Reads for the Period
January 1, 2002 – June 30, 2002

JANUARY 2002	Initial Bills	Final Bills
Meter Issues	68	80
Access	142	5
New Install	401	5
Read Error	207	393
JANUARY TOTALS	818	483
FEBRUARY 2002		
Meter Issues	53	95
Access	110	5
New Install	327	1
Read Error	151	443
FEBRUARY TOTALS	641	544
MARCH 2002		
Meter Issues	46	104
Access	248	2
New Install	353	0
Read Error	154	475
MARCH TOTALS	801	581
APRIL 2002		
Meter Issues	55	120
Access	189	1
New Install	274	5
Read Error	140	733
APRIL TOTALS	658	859
MAY 2002		
Meter Issues	62	127
Access	166	6
New Install	244	0
Read Error	122	542
MAY TOTALS	594	675
JUNE 2002		
Meter Issues	14	143
Access	145	4
New Install	122	1
Read Error	146	259
JUNE TOTALS	427	407
PERIOD TOTALS	3939	3549

ARIZONA PUBLIC SERVICE COMPANY
Semi-annual Compliance Filing Pursuant to Decision No. 64180
Docket No. E-00000A-00-0403
Estimating Methodology

APS uses various methods for estimating a read for an initial or final bill. The circumstances that created the need for APS to estimate dictate which of the methods we may use.

Initial Bill Estimate – New Meter Set

These are created when a new meter is set and by the time the meter is assigned to a route, the route is already out in the field to be read for the current month. When this occurs, APS' billing system flags these as an exception and the account is routed to a Billing Associate. If the number of days between the meter set and read date is less than 10 days, the Billing Associate estimates the read at zero. The customer's first bill would only be a prorated basic service charge. If the number of days is more than 10 days, the Billing Associate will estimate a read using 20 kWh per day times the number of days.

Initial Bill Estimate – Existing Meter

The majority of these are created by access problems. Since there is history available for the site, the Billing Associate will consider the previous month and the same month a year ago. From this they will calculate a per day usage. They will multiply the per day usage by the number of days for the new customer's bill to arrive at an estimated read. If the account is time-of-use, the Billing Associate uses a split of 40% on-peak and 60% off-peak.

Final Bill Estimate

Depending on the circumstances creating the need to estimate, Billing Associates could use any of the methods below to estimate a final bill read.

1. Consider the previous month and the same month a year ago. From this they will calculate a per day usage. They will multiply the per day usage by the number of days for the new customer's bill to arrive at an estimated read. If the account is time-of-use, the Billing Associate uses a split of 40% on-peak and 60% off-peak.
2. Utilize a system estimating program that calculates estimated usage using either of the two methods below:
The Base load methodology estimates kWh as follows:
 1. If a winter month is billing add the kWh for most recent 6 winter months; if summer add the most recent 6 summer months to come up with Total kWh.
 2. Add the number of days in the same six-month period being used for your base load to come up with Total Days.
 3. Multiply the Total kWh for the summer or winter period by 30.
 4. Divide previous calculation by Total Days for summer or winter period.
 5. Multiply the previous calculation by the number of days in the current month billing period
 6. Divide the previous calculation by 30.

For example, if the billing month is May it is a summer month. Add the kWh for the 6 summer months of the previous year since these are the most recent. Assume they are:

May (This period) number of days = 32 days

May (previous year) 995 – 30 days

June 1532 - 29 days

July 1796 - 31 days

August 2098 - 29 days
September 1919 - 31 days
October 1629 - 28 days

Total kWh = 9969
Total days = 178
 $9969 * 30 = 299070$
 $299070 / 178 = 1680$
 $1680 * 32 = 53760$
 $53760 / 30 = 1792$

Estimated consumption for May would be 1792 kWh.

If baseload information is not available, the system could then use the Previous Month's Usage Methodology that calculates estimated usage using the kWh from the previous month. Previous month's usage is calculated as follows:

1. Multiply the usage from the previous month times 30
2. Divide the calculation above by the actual number of days in the previous month
3. Multiply the previous calculation by the number of days in the current month billing period
4. Divide the previous calculation by 30.

For example, if the billing month is January, you are in a winter month.

December usage = 2369
December number of days = 27
January number of days = 32

$2369 * 30 = 71070$
 $71070 / 27 = 2632$
 $2632 * 32 = 84224$
 $84224 / 30 = 2807$

January estimate usage would be 2807 kWh.

3. Obtain a read after the final bill read date. Determine the difference between the last read prior to the estimated final read and the new read and calculate per day usage. Multiply this per day usage by the number of days for the final bill.

ATTACHMENT 2



Jana Van Ness
Manager
Regulatory Compliance

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Phoenix, AZ 85072-3999

October 10, 2003

Mr. Ernest Johnson
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

OCT 10 2003

RE: Semi-Annual Compliance Filing Pursuant to Decision No. 64180
Waiver of PSWG First and Final Bill Estimates
Docket No. E-00000A-00-0403

Dear Mr. Johnson:

Pursuant to the above referenced decision, Arizona Public Service Company ("APS" or "Company") made Semi-Annual filings regarding estimated initial and final bills on October 15, 2002 and April 15, 2003. As part of the Company's ongoing efforts to monitor compliance with Arizona Corporation Commission ("Commission") orders and regulations, we have determined that the October and April filings omitted a description of APS' procedures for estimating customer demand (kW) for those APS customers having demand metering. We have also clarified and expanded upon our description of the Company's kWh estimation process. Attached please find a complete description of the Company's estimation procedures.

Please note that although Decision No. 64180 required APS to submit its estimation procedures for "first and final" billing estimates, these are, in fact, the estimation procedures generally used by the Company since 1998 in all instances in which bill estimation is required or authorized. It is also consistent with the estimation methodology approved by the Utilities Director on July 3, 2001 for interval (direct access) metering pursuant to A.A.C. R14-2-1613 1612(L) (14) and A.A.C. R14-2-210 (A) (5).

If you or your staff have any questions or concerns concerning the Company's prior or current use of these estimation procedures, please feel free to call me.

Sincerely,

Jana Van Ness
Manager
Regulatory Compliance

Attachment

JVN/srm

Cc Manager, Compliance and Enforcement
Docket Control (Original, plus 13 copies)

ARIZONA PUBLIC SERVICE COMPANY
Semi-annual Compliance Filing Pursuant to Decision No. 64180
Docket No. E-00000A-00-0403
Estimating Methodology

APS uses the below-described methods for estimating a read for an initial, final or any other active monthly bill where APS is not able to obtain a complete and/or valid meter read. In such instances, the Company's Billing Associates use the methods below to estimate a billing read. They can either manually calculate the estimate or utilize a computerized system estimating program, both of which are based on similar sets of assumptions.

ESTIMATING kWh:

Initial and/or Active Monthly Bill Estimate – New Meter Set, No History

These are created when a new meter is set but when the meter is assigned to a route, the route has already gone to the field to be read for the current month. When this occurs, APS' billing system flags these as exceptions and the accounts are routed to a Billing Associate. If the number of days between the meter set and read date is less than 10, the Billing Associate estimates the read at zero. The customer's first bill is only a prorated basic service charge. If the number of days is greater than 10, the Billing Associate will estimate a read using 20 kWh per day times the number of days.

Initial, Final and/or Active Monthly Bill Estimate – Existing Meter, History

The majority of these are created by access problems. Since there may be history available for the site, the Billing Associate will estimate the read by considering and using the following methodologies for estimating base load (if sufficient history exists). The Billing Associate will also review actual data from the customer's previous billing month, and also the same month a year ago if either insufficient history exists to determine base usage or the estimation of base usage appears unusually high compared to either the last month or same month, last year consumption.

A. Base Load Methodology:

1. If a winter month is being estimated, add the kWh for most recent 6 winter months; if summer, add the most recent 6 summer months to come up with Total kWh.

<u>Months:</u>	<u>Residential</u>	<u>Commercial</u>
Winter	November-April	November-May
Summer	May-October	June-October

2. Add the number of days in the same six-month period being used for your base load to come up with Total Days.
3. Multiply the Total kWh for the summer or winter period by 30.
4. Divide previous calculation by Total Days for summer or winter period.
5. Multiply the previous calculation by the number of days in the current month billing period
6. Divide the previous calculation by 30.

For example, if the billing month is May, it is a summer month. Add the kWh for the 6 summer months of the previous year since these are the most recent. Assume they are:

May (This period) number of days = 32 days

May (previous year) 995 – 30 days

June 1532 -	29 days
July 1796 -	31 days
August 2098 -	29 days
September 1919 -	31 days
October 1629 -	28 days

Total kWh = 9969
 Total days = 178
 $9969 * 30 = 299070$
 $299070 / 178 = 1680$
 $1680 * 32 = 53760$
 $53760 / 30 = 1792$

Estimated consumption for May would be 1792 kWh.

B. Previous Month's Usage Methodology:

Calculates estimated per day usage using the kWh from the previous month.

1. Multiply the usage from the previous month times 30.
2. Divide the calculation above by the actual number of days in the previous month
3. Multiply the previous calculation by the number of days in the current month billing period
4. Divide the previous calculation by 30

For example, January is a winter month and would be estimated as follows:

December usage = 2369
 December number of days = 27
 January number of days = 32

$2369 * 30 = 71070$
 $71070 / 27 = 2632$
 $2632 * 32 = 84224$
 $84224 / 30 = 2807$

January estimate usage would be 2807 kWh.

C. Same Month a Year Ago Methodology:

This is calculated similar to the Previous Month's Usage Methodology, however, usage from the Same Month a Year Ago is used. If the account was not on a Time-Of-Use service plan a year ago, but is currently, the Billing Associate uses a split of 40% on-peak and 60% off-peak in the summer and 30% on-peak and 70% off-peak during the winter months.

D. Estimating Based on Actual Reads

The Associates are also able to estimate a read for Final and Active Monthly Bills by using actual reads and determining the difference. The difference between the last actual read, prior to the estimated read, and the new actual read are used to calculate the per day usage. Multiply the per day usage by the number of days for the bill.

For example:

May 15 is actual read of 19886
 June 16 is an estimated read for 32 days (May 15 to June 16)
 July 14 is an actual read of 23201 for 28 days (June 16 to July 14)

Total number of days: $28 + 32 = 60$
Total Usage: $23201 - 19886 = 3315$
Per day usage: $3315 \div 60 = 55.25$
Prorated June usage: $32 \times 55.25 = 1768$
Prorated June read: $19886 + 1768 = 21654$

ESTIMATING kW:

Initial, Final and/or Active Monthly Bill - Estimating Demand (kW):

The APS Billing System will estimate demand reads. The calculation for estimating the demand is as follows:

A. Residential Time-Of-Use Demand Service Plan with a Time-Of-Use Meter:

1. Calculate the estimated on-peak kWh using the appropriate kWh estimating methodology
2. Multiply 13 by the number of days in the billing period (13 represents the on-peak hours)
3. Divide the estimated on-peak kWh by the previous calculation
4. Divide the previous calculation by 35%¹ (this represents the average residential load factor)
5. Add 0.05 to the previous calculation (this is for rounding purposes)

¹ This was changed from 50% for residential time-of-use and from 45% for residential non-time-of-use on August 24, 2002.

Assuming on-peak estimated kWh of 842, if the system were estimating a demand kW read for this service the calculation would be:

1. $13 \times 32 = 416$
2. $842 / 416 = 2.02$
3. $2.02 / 35\% = 5.77$
4. $5.77 + .05 = 5.82$

The estimated demand for the service would be 5.82.

B. Residential Non-Time-Of-Use Service Plan:

1. Calculate the estimated kWh using the appropriate kWh estimating methodology
2. Multiply 24 hours by the number of days in the billing period
3. Divide the estimated kWh by the previous calculation
4. Divide the previous calculation by 35%¹ (this represents the average residential load factor)
5. Add 0.05 to the previous calculation (this is for rounding purposes)

¹ This was changed from 50% for residential time-of-use and from 45% for residential non-time-of-use on August 24, 2002.

C. Non-Residential:

All non-residential services that can be estimated are calculated the same as above, except the load factor percentage is 50%².

² This was changed from 60% on August 24, 2002

Correcting an Estimated Demand (kW):

The APS Billing Program will produce an exception bill when, after having an estimated demand read, we obtain an actual demand read which is lower than the estimated demand read.

For example:

May is actual read and reset of demand - actual demand is 6.4

June is estimated - estimated demand is 7.3

July is actual read and reset of demand - actual demand is 6.9

The July bill will produce a billing exception because the actual demand is less than the estimated demand. The Billing Associate will work the exception, and using their billing expertise, lower the June demand to something equal to, or less than 6.9.